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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,702

02/01/2006

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09/24/2008

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EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

09/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,702	Applicant(s) LATZ ET AL.	
	Examiner BURTON MULLINS	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-12, 14-16 and 18 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-12, 14-16 and 18, drawn to a multi-layered sliding electrical contact part; and

Group II, claims 17 and 19-22, drawn to a sliding electrical contact part comprising only one layer of material.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I is directed to a multi-layered sliding contact part, i.e., “at least one layer composed of a first material with a low electrical resistivity and at least one layer composed of a second material with a higher electrical resistivity”; while Group II is directed to a sliding contact with only one layer.

Newly submitted claims 17 and 19-22 are thus directed to an invention that is independent or distinct from the invention originally claimed. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17 and 19-22

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have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation “the base containing carbon” lacks antecedent basis.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 6-10, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al. (US 6,898,839) in view of Otani (US 7,067,951) and Gilson (US 1,093,614). Katoh teaches a multi-layered, sliding electrical contact part (i.e., brush 10 with layers 1 and 2 and sliding contact surface 11; Fig.4A) containing carbon and copper wherein the contact part comprises at least one layer 2 composed of a first material (sintered copper alloy) with a low electrical resistivity (i.e., ‘high-conduction’; c.4:12-15) and at least one layer 1 composed of a second material (sintered filler powder with graphite) with a higher electrical resistivity (i.e., ‘low-conduction’; c.4:15-18). Katoh’s brush or multi-layered, sliding electrical contact part comprises copper and carbon but does not further contain zinc and iron. Further, Katoh’s brush first material of first layer 2 comprises powder but does not comprise zinc and iron based particles of a size less than 500 μm , per se.

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Otani teaches a sliding electrical contact part comprising a brush 12 (Fig.2) with a brush body containing a copper and zinc alloy (c.1:58-c.2:1). The zinc based particles have a size less than 500 μm (c.1:66-c.2:3; c.5:65-c.6:3). The addition of zinc controls the increase in resistivity of the brush body under high humidity (c.1:54-55; c.3:8-20).

Gilson teaches adding finely divided iron particles to a brush composition to improve commutation by preventing sparking (p.1:15-38).

It would have been obvious to modify Katoh and add zinc particles per Otani to control the increase in resistivity in the brush body under high humidity and to further add iron particles per Gilson to improve commutation. The combination further teaches particles of zinc and iron would be less than 500 μm since Otani explicitly teaches this range for the zinc and since Gilson explicitly teaches fine iron particles.

Regarding claims 2-3, as best understood, Otani's copper-graphite powder brush with base (Fig.4) represents at least 20 weight-% of the contact part since the metal sulfide lubricant and brass particles comprise no more than 15 weight-% per c.4:11-14 & 20-21.

Regarding claim 6, Otani's particles in Example 8 have a mean diameter of 50 μm .

Regarding claim 7, Gilson's iron particles are pure iron and thus comprise 100% weight in iron, thus fulfilling the limitation.

Regarding claims 8-9, see Examples 1-2 of Otani & c.11:1-2, c.12:3-7.

Regarding claim 10, Otani teaches a metal-sulfide solid lubricant (c.4:11-12).

Regarding claims 14-16 and 18, Katoh comprises a motor brush, in particular an automobile starter motor brush (Fig.1).

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5. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh, Otani and Gilson, further in view of Munday (US 1,807,794). Katoh, Otani and Whiteheart substantially teach applicant's invention but do not teach a polishing product.

Munday teaches a carbon brush comprising a carbide polishing product such as carborundum (p.2:8-19) to true the commutator.

It would have been obvious to modify Katoh, Otani and Gilson's brush and provide a carbide polishing product such as carborundum per Munday to true the commutator.

Allowable Subject Matter

6. Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach the claimed sliding electrical contact part wherein said part contains between 1 and 15 weight-% of iron based particles or between 3 and 10 weight-% of iron based particles.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 6-12 and 14-22 have been considered but are moot in view of the new grounds of rejection.

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Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BURTON MULLINS whose telephone number is (571)272-2029. The examiner can normally be reached on 9-5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BURTON MULLINS/
Primary Examiner, Art Unit 2834

bsm
22 September 20008